

WHAT IS CLAIMED IS:

1. A stacked IC comprising:

a first IC package unit comprising an IC chip, an encapsulant resin and a plurality of lead wires, said IC chip being encapsulated by said encapsulant resin, wherein each of said lead wires comprises a first end connected to said IC chip and encapsulated by said encapsulant resin, a second end extending outside said encapsulant resin, and a bend portion arranged between said first end and said second end and having at least one surface exposed outside of said encapsulant resin;

a second IC package unit having the same structure as said first IC package unit; and

an interface layer sandwiched between said first IC package unit and said second IC package unit, and having a first side connected to said bend portion of said first IC package unit and a second side connected to said second end of said second IC package unit, thereby achieving electrical connection between said first IC package unit and said second IC package unit.

2. The stacked IC according to claim 1 wherein said bend portion has a top surface exposed outside of said encapsulant resin, and the remainder thereof is encapsulated by said encapsulant resin.

3. The stacked IC according to claim 1 wherein said bend portion is exposed outside and extended from said encapsulant resin.

4. The stacked IC according to claim 1 wherein said first side of said interface layer has a plurality of first solder pads connected to said first lead wires of said first IC package unit.

5. The stacked IC according to claim 1 wherein said second side of said interface layer has a plurality of second solder pads connected to said second ends of said

lead wires of said second IC package unit.

6. The stacked IC according to claim 1 wherein said IC chip for each of said first IC package unit and said second IC package unit has a bottom surface uncovered by said encapsulant resin.

7. The stacked IC according to claim 1 wherein said interface layer is made of a hard dielectric material.

8. The stacked IC according to claim 1 wherein said interface layer is made of a soft dielectric material.

9. The stacked IC according to claim 1 wherein said IC chip for each of said first IC package unit and said second IC package unit is selected from a group consisting of a memory chip, an application specific integrated circuit (ASIC) chip and a driving integrated circuit chip.

10. A stacked IC comprising:

a first IC package unit comprising a first IC chip, a first encapsulant resin and a plurality of first lead wires, said first IC chip being encapsulated by said first encapsulant resin, wherein each of said first lead wires comprises a first end connected to said first IC chip and encapsulated by said first encapsulant resin, a second end extending outside said first encapsulant resin, and a bend portion arranged between said first end and said second end and having at least one surface exposed outside of said first encapsulant resin;

a second IC package unit comprising a second IC chip, a second encapsulant resin and a plurality of second lead wires, said second IC chip being encapsulated by said second encapsulant resin, wherein each of said second lead wires comprises a third end connected to said second IC chip and encapsulated by said second encapsulant resin, and a fourth end extending outside said second encapsulant resin; and

an interface layer sandwiched between said first IC package unit and said second IC package unit, and having a first side connected to said bend portion of said first IC package unit and a second side connected to said fourth end of said second IC package unit, thereby achieving electrical connection between said first IC package unit and said second IC package unit.

11. The stacked IC according to claim 10 wherein said bend portion of said first lead wire has a top surface exposed outside of said first encapsulant resin, and the remainder thereof is encapsulated by said first encapsulant resin.

12. The stacked IC according to claim 10 wherein said bend portion of said first lead wire is exposed outside and extended from said first encapsulant resin.

13. The stacked IC according to claim 10 wherein said first side of said interface layer has a plurality of first solder pads connected to said bend portions of said first lead wires of said first IC package unit.

14. The stacked IC according to claim 10 wherein said second side of said interface layer has a plurality of second solder pads connected to said fourth ends of said lead wires of said second IC package unit.

15. The stacked IC according to claim 10 wherein said interface layer is made of a hard dielectric material.

16. The stacked IC according to claim 10 wherein said interface layer is made of a soft dielectric material.

17. The stacked IC according to claim 10 wherein each of said first IC chip and said second IC chip is selected from a group consisting of a memory chip, an application specific integrated circuit (ASIC) chip and a driving integrated circuit chip.

18. A stacked IC comprising:

an IC package unit comprising an IC chip, an encapsulant resin and a

plurality of lead wires, said IC chip being encapsulated by said encapsulant resin, wherein each of said lead wires comprises a first end connected to said IC chip and encapsulated by said encapsulant resin, a second end extending outside said encapsulant resin, and a bend portion arranged between said first end and said second end and having at least one surface exposed outside of said encapsulant resin;

a ball grid array (BGA) package unit comprising a plurality of solder balls; and

an interface layer sandwiched between said IC package unit and said BGA package unit, and having a first side connected to said bend portion of said IC package unit and a second side connected to said solder balls of said BGA package unit, thereby achieving electrical connection between said IC package unit and said BGA package unit.

19. An IC module comprising:

a circuit board having a top surface and a bottom surface; and

a plurality of stacked ICs arranged on said top surface and said bottom surface of said circuit board, wherein each stacked IC comprises a first IC package unit, a second IC package unit and an interface layer, wherein said first IC package unit comprises an IC chip, an encapsulant resin and a plurality of lead wires, said IC chip is encapsulated by said encapsulant resin, each of said lead wires comprises a first end connected to said IC chip and encapsulated by said encapsulant resin, a second end extending outside said encapsulant resin, and a bend portion arranged between said first end and said second end and having at least one surface exposed outside of said encapsulant resin, wherein said second IC package unit has the same structure as said first IC package unit, and wherein said interface layer is sandwiched between said first IC package

unit and said second IC package unit, and has a first side connected to said bend portion of said first IC package unit and a second side connected to said second end of said second IC package unit, thereby achieving electrical connection between said first IC package unit and said second IC package unit.

20. The IC module according to claim 19 wherein each of said first IC chip and said second IC chip is selected from a group consisting of a memory chip, an application specific integrated circuit (ASIC) chip and a driving integrated circuit chip.